US Army Corps of Engineers®
Engineer Research and Development Center

Geo-referenced Portable Document Format (GeoPDF)

Technology

Portable Document Format (PDF): A file format developed by Adobe Systems for representing documents in a manner that is independent of the original application software, hardware, and operating system used to create those documents. A PDF file can describe documents containing any combination of text, graphics, and images in a device independent and resolution independent format. These documents can be one page or thousands of pages, very simple or extremely complex with a rich use of fonts, graphics, color, and images. PDF is a published open ISO standard file format, and anyone may write applications that can read or write PDFs royalty-free.
GeoPDF: TerraGo Technologies as one of Adobe's business partners has created a plug-in for Adobe Acrobat that allows you to embed a coordinate system and attribute data into the PDF maps you create. By using the TerraGo tool MAP2PDF you can create and view the Geo-referenced PDF file.

Problem

Need for a better looking map background and a small file size for use for demand based replication of raster and vector format maps.

Expected Cost To Implement

Need for a better looking map background and small file size for use for demand based replication.

Little to none: The National Geospatial-Intelligence Agency (NGA) has a program named ***eChart*** which will produce **vector** based GeoPDF files for all new data through their GGI contracts (the number of sheets produced is based on the NGA map sheets update schedule, which is a limited number of sheets per year). In the interim, the Army and Marines are producing **raster** based GeoPDF files by scanning their holdings of NGA standard products or when available using NGA computer to plate files to supplement the eChart initiative at NGA (Army has created GeoPDF files for numerous countries for under $15,000)

Benefits/Savings

The GeoPDF file that is created is a much better looking map than NGA's CADRG (ADRG quality with CADRG size is a good way to think of it), the file is (but does not have to be) a standard NGA product (JOG, TPC, TLM) so the files can be used for demand based replication which is an initiative that NGA has as a way to reduce the number of maps being printed and placed in storage, only to have them go out of date. Printing maps as needed, or "on demand", would reduce the number of maps stored while providing an opportunity for update at the time of printing. Maps produced on demand would benefit from having the most current information. The PDF file format goes hand in hand with demand based replication because of its small file size (1.5-10MB) which supports low bandwidth dissemination.

ERDC POC

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Distribution Sources

NGA Gateways and TEC websites